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Los Alamos National Laboratory
Los Alamos, New Mexico 87545

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In Reply Refer To: ESH-18/WQ&H:01-023
Mail Stop: K497
Telephone: (505) 665-1859

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Ms. Phyllis Bustamante
Ground Water Quality Bureau
New Mexico Environment Department
P.O. Box 26110
Santa Fe, New Mexico 87502

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SUBJECT: GROUND WATER DISCHARGE PLAN (DP-1132), QUARTERLY REPORT, FOURTH QUARTER, 2000

Dear Ms. Bustamante:

This letter and the enclosed attachments are intended to serve as Los Alamos National Laboratory's quarterly Ground Water Discharge Plan (DP-1132) report for the Radioactive Liquid Waste Treatment Facility (RLWTF) at TA-50 for the period from October 1 through December 31, 2000. Since the first quarter of 1999, Los Alamos National Laboratory has provided your agency with voluntary quarterly reports containing analytical results from effluent and ground water monitoring and a status report on RLWTF operations.

Attachment 1.0, Table 1.0, presents the analytical results from sampling conducted at the Laboratory's Mortandad Canyon alluvial monitoring wells on October 30, 2000. All of the analytical results from MCO-3, MCO-6, and MCO-7 were below New Mexico Water Quality Control Commission (NM WQCC) Regulation 3103 standards for nitrate (NO3-N), fluoride (F), and total dissolved solids (TDS) with the exception of the fluoride result from MCO-7. Fluoride in MCO-7 was 2.13 mg/L, a marked increase from the fluoride concentrations seen in the first three quarters of 2000. Attachment 3.0, Figure 1.0, shows the fluoride concentrations in Mortandad Canyon alluvial ground water during 2000. With the exception of the referenced result, all fluoride results in 2000 were below the state ground water standard of 1.6 mg/L.

No sample results are available for MCO-4B because insufficient water was available for sample collection. MCO-4B has not had sufficient water for sampling since October 1999.

Attachment 2.0, Table 2.0, presents the analytical results from weekly monitoring of the RLWTF's effluent holding tank. The weekly samples are flow-proportioned composite samples prepared from each batch of effluent generated by the RLWTF during a 7-day period. All sample results shown for the fourth quarter 2000 were below NM WQCC Regulation 3103 standards for nitrate (NO3-N), fluoride (F), and total dissolved solids (TDS). The quarterly average for nitrates in the RLWTF's effluent was 4.75 mg/L.

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In addition to weekly composite sampling, the RLWTF also conducts operational screening (using a HACH Kit) for nitrates (NO3-N) in each batch of effluent. Operational screening of effluent samples collected during the fourth quarter 2000 produced the following maximum, minimum, and average results for nitrate (NO3-N), respectively: 7.6 mg/L, 1.8 mg/L, and 5.61 mg/L.

Please contact me at 667-7969 if you would like additional information regarding this quarterly report.

Sincerely,

Bob Beers
Water Quality and Hydrology Group

BB/rm

Enclosures: a/s

Cy: E. Spencer, USEPA, Region 6, Dallas, Texas, w/enc.
J. Bearzi, NMED HRMB, Santa Fe, New Mexico, w/enc.
J. Davis, NMED/SWQB, Santa Fe, New Mexico, w/enc.
J. Vozella, DOE/LAAO, w/enc., MS A316
M. Johansen, DOE/LAAO, w/enc., MS A316
J. Parker, NMED/DOE/OB, w/enc., MS J993
R. Ford-Schmid, NMED/DOE/OB, w/enc., MS J993
T. Gunderson, DLDOPS, w/enc., MS A100
T. Stanford, FWO-DO, w/enc., MS K492
B. Ramsey, FWO-DO, w/enc., MS K492
S. Hanson, FWO-DO, w/enc., MS K492
D. McLain, FWO-WFM, w/enc., MS J593
R. Alexander, FWO-WFM, w/enc., MS E518
D. Moss, FWO-WFM, w/enc., MS E518
P. Worland, FWO-WFM, w/enc., MS E518
D. Erickson, ESH-DO, w/enc., MS K491
L. McAtee, ESH-DO, w/enc., MS K491
S. Rae, ESH-18, w/enc., MS K497
M. Saladen, ESH-18, w/enc., MS K497
D. Woitte, LC/GL, w/enc., MS A187
WQ&H File, w/enc., MS K497
IM-5, w/enc., MS A150

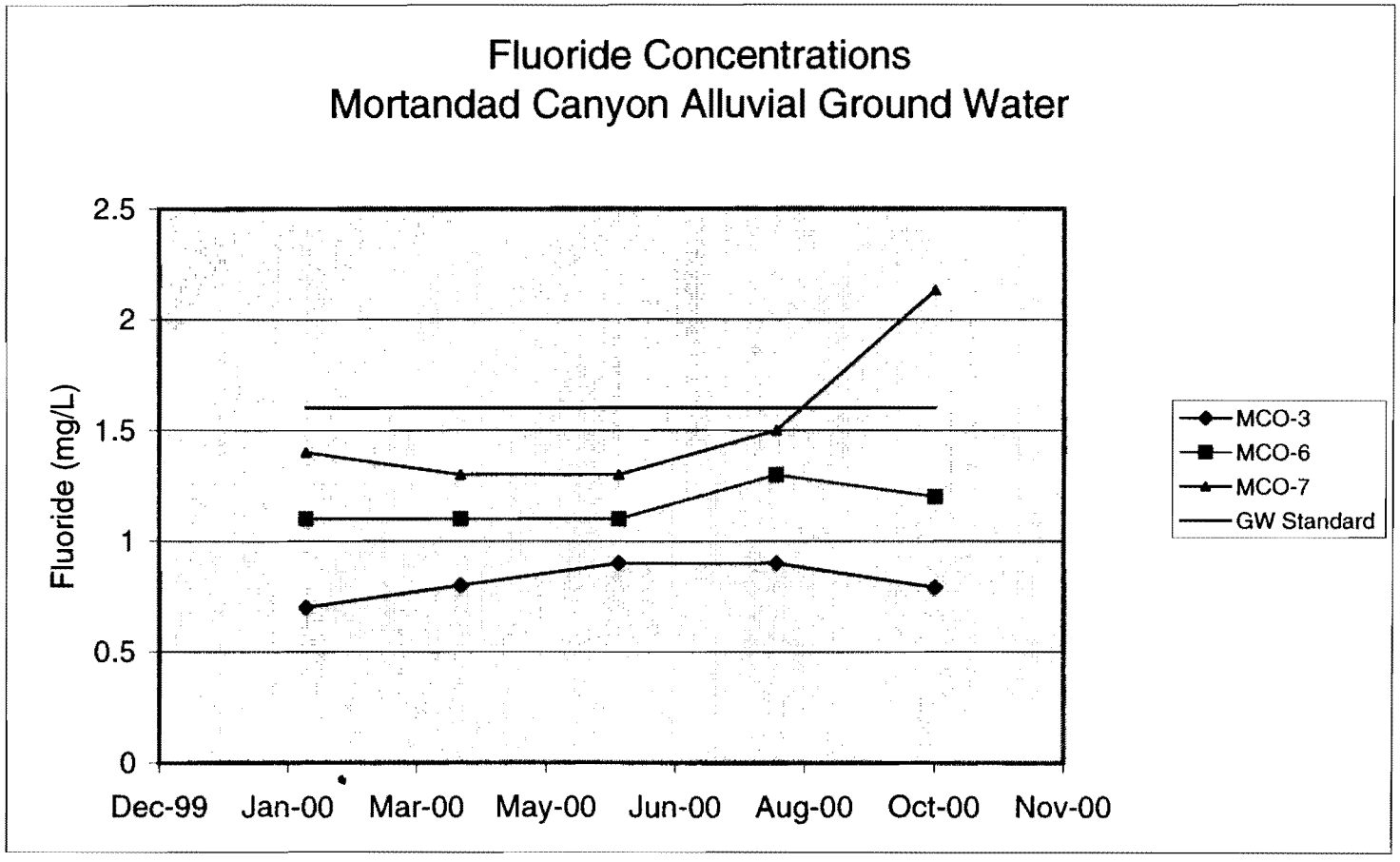
Table 1.0. Analytical Results, Mortandad Canyon Alluvial Monitoring Wells (mg/L), October-December, 2000.

Sampling Location	Sample Date: October 30, 2000				
	NO3-N	TKN	NH3	TDS	F
MCO-3	2.69	0.230	<0.029	462	0.794
MCO-4B	NS	NS	NS	NS	NS
MCO-6	6.09	0.170	<0.029	349	1.2
MCO-7	5.01	0.220	<0.029	267	2.13
NM WQCC Ground Water Standards	*10*			*1000*	*1.6*

Notes:
NS means that no sample was collected at this well due to insufficient water.
All units: mg/L

Table 2.0. RLWTF Weekly Effluent Monitoring Analytical Results, October-Decemer, 2000.

Monitoring Period	RLWTF Weekly Effluent Monitoring Analytical Results		
	NO3-N (mg/L)	F (mg/L)	TDS (mg/L)
OCTOBER	3.96	0.78	298
	4.06	0.77	448
	4.14	0.68	432
	5.76	0.71	534
	5.01	0.69	806
NOVEMBER	6.18	0.47	662
	3.45	0.24	396
	3.36	0.54	512
	6.21	0.54	566
DECEMBER	6.03	0.71	402
	5.53	0.5	492
	3.35	0.31	322
	5.47	0.5	532
4th Quarter 2000 Averages (mg/L)	**4.75**	**0.57**	**492**
NM WQCC 3103 Ground Water Standards (mg/L)	*10*	*1.6*	*1000*


Fluoride Concentrations
Mortandad Canyon Alluvial Ground Water
Fluoride (mg/L)
2.5
2
1.5
1
0.5
0
Dec-99
Jan-00
Mar-00
May-00
Jun-00
Aug-00
Oct-00
Nov-00
MCO-3
MCO-6
MCO-7
GW Standard